

were significantly larger than those of the volunteers. Although there was a positive correlation between body mass index and visceral fat area ($r=0.86$, $p<0.01$), the ratio of visceral fat area to body mass index was also higher in the hospitalized patients (3.24 ± 1.40 vs 2.11 ± 0.61 , $p<0.01$). Correlations of age to body mass index ($r=0.09$, $p=0.44$) and visceral fat area ($r=0.16$, $p=0.14$) were not significant, however, the ratio of visceral fat area to body mass index had a weak correlation to age ($r=0.24$, $p=0.03$).

Conclusion: Hospitalized patients in the cardiology ward had larger visceral fat. Further investigation is needed to demonstrate clinical usefulness of this novel technique.

Other Pharmacologic Agents (TCTAP A-205 to TCTAP A-206)

TCTAP A-205

The Protective Effect of PEP-1-CAT Fusion Protein Preconditioning on Myocardial Ischemia-reperfusion Injury in Rats

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Background: Myocardial infarction is a leading cause of death and disability, with a direct correlation between infarct size and prognosis. Early reperfusion is an absolute prerequisite for the survival of ischemic myocardium. However, reperfusion itself may lead to accelerated and additional myocardial injury beyond that generated by ischemia alone. Oxygen free radical theory is an important mechanism of ischemia-reperfusion injury. hydroxyl, which has high toxicity, can be removed by CAT. in the stage of reperfusion, endogenous CAT is relative scanty. CAT does not readily penetrate through membranes, but CAT can penetrate through cell membrane by PEP-1. And PEP-1-CAT has Biological activity.

Methods: 40 Male rats were divided into 5 groups at random, Sham-operated group, ischemia-reperfusion group (I/R group), PEP-1-CAT-treated group (group1, group2, group3). 1ml NS were injected via caudal vein in Sham-operated group and ischemia-reperfusion group, 100µg, 300µg and 500µg PEP-1-CAT were administered via caudal vein respectively. 7 hours later, the left main coronary artery was occluded for 30 minutes followed by a 2-h reperfusion in anesthetized rats, at the end of reperfusion, hemodynamics were measured. Infarct size were measured by TTC staining, LDH, CK in blood serum and MDA in myocardium were measured according to the manufacturer's protocol. The myocardial cell apoptosis was determined with TUNEL (TdT-mediated dUTP Nick-End Labeling) method. Immunofluorescent method was used to detect the expression changes of bcl-2 and bax in rat myocardium of left ventricle.

Results: Compared with I/R group, PEP-1-CAT-treated groups, LVSP and $\pm dp/dt_{max}$ were increased ($p<0.01$), LVEDP were decreased ($p<0.01$). Cardiac infarct areas appeared in each group, but the infarct size in PEP-1-CAT fusion protein groups were significantly lower than I/R group ($p<0.05$ or $p<0.01$). The myocardial MDA content LDH and CK release were significantly lower in PEP-1-CAT-treated groups than in I/R group ($p<0.01$). Under the fluorescent microscope, the apoptotic myocytes demonstrated brilliant green fluorescence and the percentage of apoptotic myocytes were decreased significantly in PEP-1-CAT-treated groups compared with I/R group ($p<0.01$). DAPI marked nucleus demonstrated blue fluorescence when excited under UV light, whereas the expression of Bcl-2 and Bax protein in the cytoplasm as well as nucleus membrane demonstrated brilliant green fluorescence, some of which were merged especially in bcl-2. Compared with I/R group, the drug group markedly decreased the expression of Bax ($p<0.01$), the ratio of Bax to Bcl-2 was decreased incidentally.

Conclusion: PEP-1-CAT preconditioning has protective effect on ischemia-reperfusion injury, this may be related with anti-oxidant and anti-apoptosis effect.

TCTAP A-206

Three-year Cumulative Incidence of New-onset Diabetes; Are There Differences Between Atorvastatin and Simvastatin?

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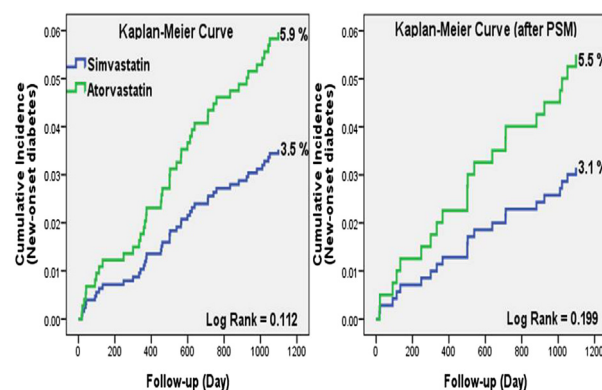
Background: Chronic statin administration may be associated with modestly increased risk of new-onset type 2 diabetes mellitus (T2DM). However, there were no data whether there are different influence on the development of diabetes mellitus between atorvastatin and simvastatin.

Methods: A total of 877 hyperlipidemia patients received statin and divided into 2 groups according to the type of statins; Atorvastatin group (n=536) and Simvastatin group (n=242). 36-month cumulative incidence of new-onset T2DM were captured and compared between the two groups.

Results: At baseline, patients in the atorvastatin group had a lower fasting glucose, HDL-C, fibrinogen, and higher history of angiotensin converting enzyme inhibitor

(ACEI) use. However, after propensity score matching, the two groups showed no significant difference at baseline. There was no significant difference in cumulative incidence of new-onset T2DM up to 36 months (Figure).

Conclusion: In our study, the cumulative incidence of new-onset T2DM up to 36 months were not different between chronic simvastatin and atorvastatin use.



Peripheral Vascular Intervention (Non-carotid, Non-neurovascular) (TCTAP A-207 to TCTAP A-209)

TCTAP A-207

Impact of Hemodialysis in Critical Limb Ischemia Patients with Infra-popliteal Arterial Lesion on Clinical Outcomes Following Percutaneous Transluminal Angioplasty

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Background: In general, it has been known that hemodialysis was associated with vascular calcification and adverse clinical outcomes following endovascular intervention (EVT). Although the success rate of infra-popliteal arterial lesion causing critical limb ischemia (CLI) is becoming very high; however, the impact of hemodialysis on the major clinical outcomes following successful EVT is not clarified yet.

Methods: This study consisted of 115 consecutive CLI patients (pts) with infra-popliteal arterial lesion underwent EVT from September 2006 to September 2010. Provisional stenting was done once the balloon angioplasty outcome is not optimal, mainly by self-expanding nitinol stents. 1-year clinical outcomes of hemolysis group (n=89 pts) were compared with those of non-hemolysis group (n=26 pts) up to 12 months.

Results: The baseline clinical characteristics were similar between the two groups except that the combined femoral arterial lesion (61.5% vs. 38.2%) was more frequent in the hemodialysis group. 1-year repeat revascularization such as TLR, TER was similar between the two groups. However, the incidence of unknown origin death (16.7% vs. 0%, $p=0.006$) and osteotomy (27.8% vs. 8.1%, $p=0.036$) was higher in the hemodialysis group (table).

Conclusion: In our study, at 1 year, despite of similar incidence of repeat revascularization, the incidence of non-cardiac death and surgical intervention (osteotomy, amputation, debridement) was higher in the hemodialysis group. Thus, CLI pts on hemodialysis should be managed by more intensive care.

Table. One-year Clinical Outcomes

Variable, N(%)	Non-hemodialysis (N=74 pts)	Hemodialysis (N=18 pts)	P-value*
Total Death	9 (12.2)	4 (22.2)	0.274
Cardiac death	2 (2.7)	0 (0.0)	0.481
Unknown death	0 (0.0)	3 (16.7)	0.006
Repeat PTA	15 (20.3)	2 (11.1)	0.509
Target Lesion Revascularization (TLR)	10 (13.5)	1 (5.6)	0.685
Target Extremity Revascularization (TER)	10 (13.5)	1 (5.6)	0.685
Debridement	10 (13.5)	5 (27.8%)	0.162
Osteotomy	6 (8.1%)	5 (27.8%)	0.036
Amputation	2 (2.8)	2 (12.5)	0.186

*Fisher exact test